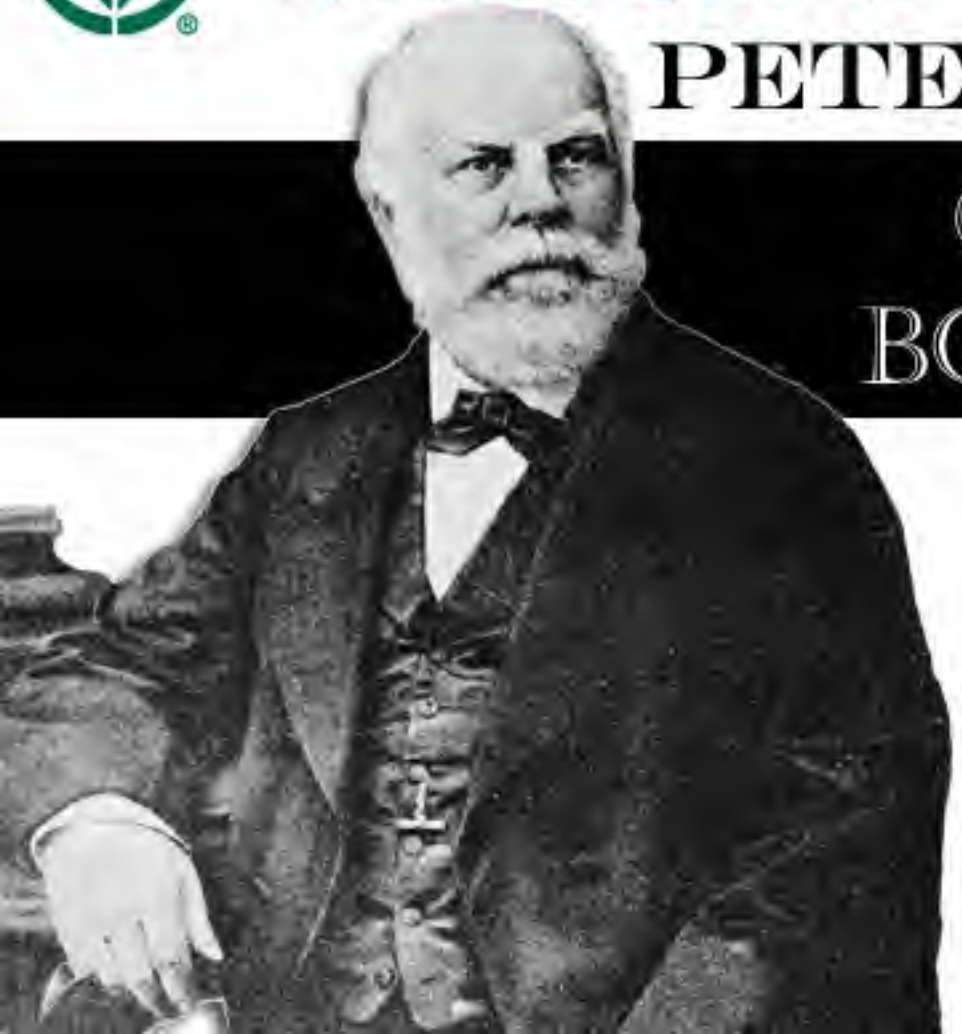
Missouri Botanical Garden
Peter H. Raven Library

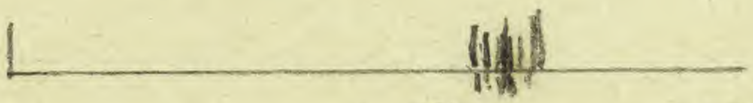
George Engelmann Botanical Notebooks



Pagination Note:
Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

Pinus Contorta
Douglasiana, Colorado Terr. 1864

April 13 1865



size of Pollen ×415 — 0.034–0.039 in

young, undeveloped Anther

×4

×10

6 perigonal Sutures

0 1 2 3 4 5 6 7 8 9 10
cm
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11192

LEITCH & CORLIES,

DRUGGISTS,

South-West Corner of Fifth and Market Streets.

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cm 0 1 2 3 4 5 6 7 8 9 10
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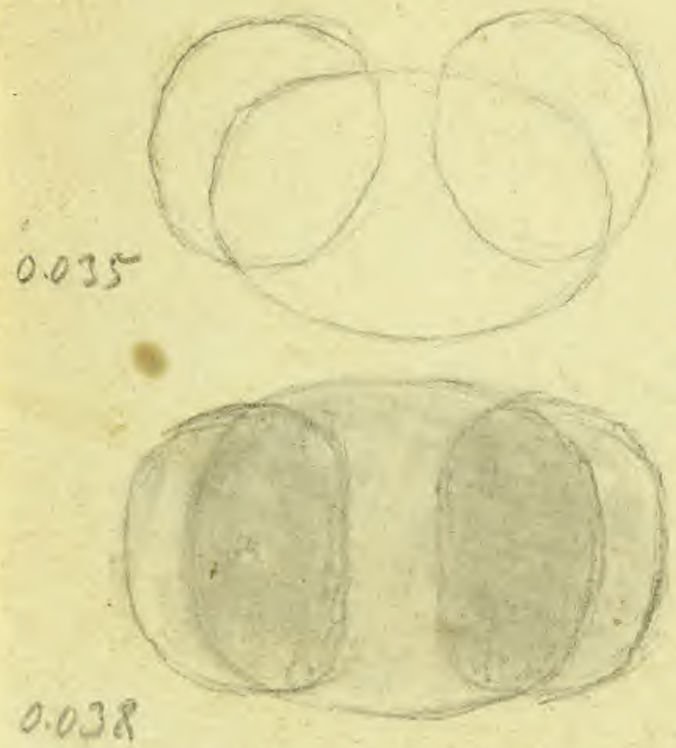
X415

Pinus Contorta

Sept 28. 1863

D Lyall Columbia Riv

immature male amts & Pollen



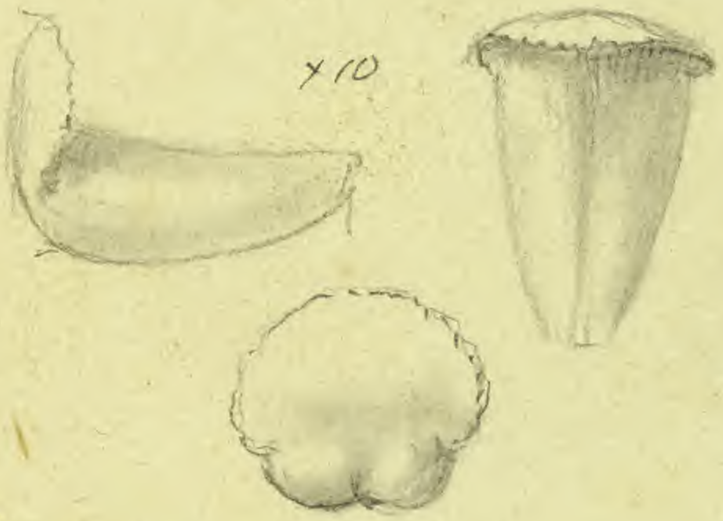
0.035

0.038

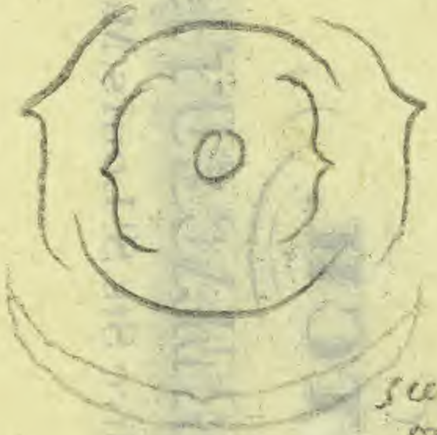
0.034

X4

soaked



X10



6

sun once

sun once (+) 5½

usual 5

0.033 – 0.039

mostly 0.036 Li

(+) B represents a small anther from same scale

11193

ALEX. LEITCH,

APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

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Sept 28 1863

Pinus contorta

Dr Parry, Colorado Terr 1862. June

X615

0.032

0.034

0.030

0.034

0.029 – 0.034

mostly 0.031

0.032 – 0.034

Complete Pollen grains for old and of last year

Pollen

immature

Pollen

mature

X4

anther before flowering soaked

old, effete anther soaked

X10

X10

usual 6 scales

seen once – 8 scales

old anther

11194

JONES & LEITCH

Druggists

Cor. Fifth & Market Sts. St. LOUIS, Mo.

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cm 0 1 2 3 4 5 6 7 8 9 10
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Calif. State Survey 2830 — Apr 12 1965

P. contorta — Sierras, 8-12000' h.yh.

P. Murrayana of Lead dealers. July 24'

×415

Tollen 0.033 – 0.036 Cin

×4

anther same as 2092

Scales of perigon 8 — 9

much shorter than 2092

8 scales of perigon

South Dakota State College DEPARTMENT OF BOTANY

11195

LEITCH & CORLIES,

DRUGGISTS,

South-West Corner of Fifth and Market Streets.

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0 cm 1 2 3 4 5 6 7 8 9 10
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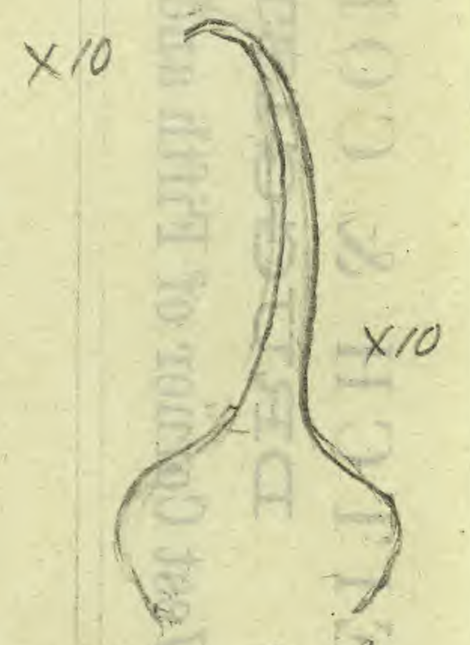
Calif. State Survey 2092 April 12 1865

Pinus contorta

0,033 – 0.38 lin

Pollen x 415 = $\frac{22.6 - 33}{415}$ = 0,069 – 0.079 mm



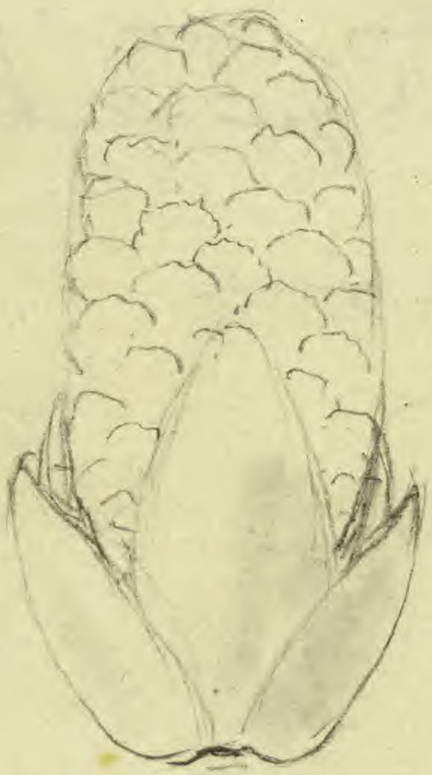
X10

X10

scale of fem. ament after flowering

over

X4



exterior side

6 surrounding scales

amenta fem. subterminal
erect subsessile
scale with long caudate
excrescence, much longer
than scale itself

0 1 2 3 4 5 6 7 8 9 10
cm
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LEITCH & CORLIES,

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0 cm 1 2 3 4 5 6 7 8 9 10
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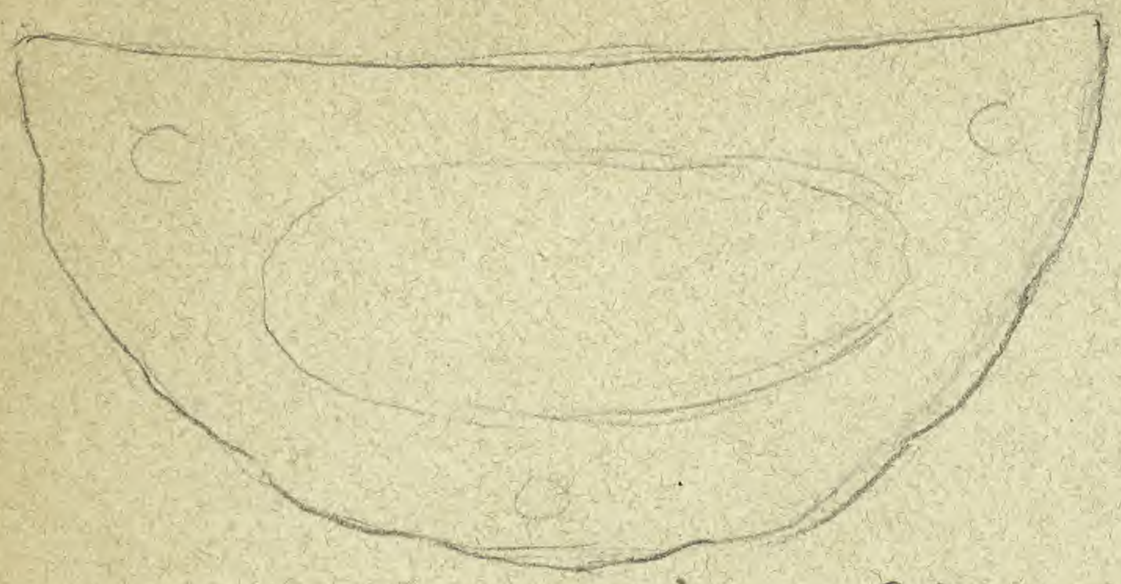
P. contorta
Colorado, Parry 1864

Oct 22 1870

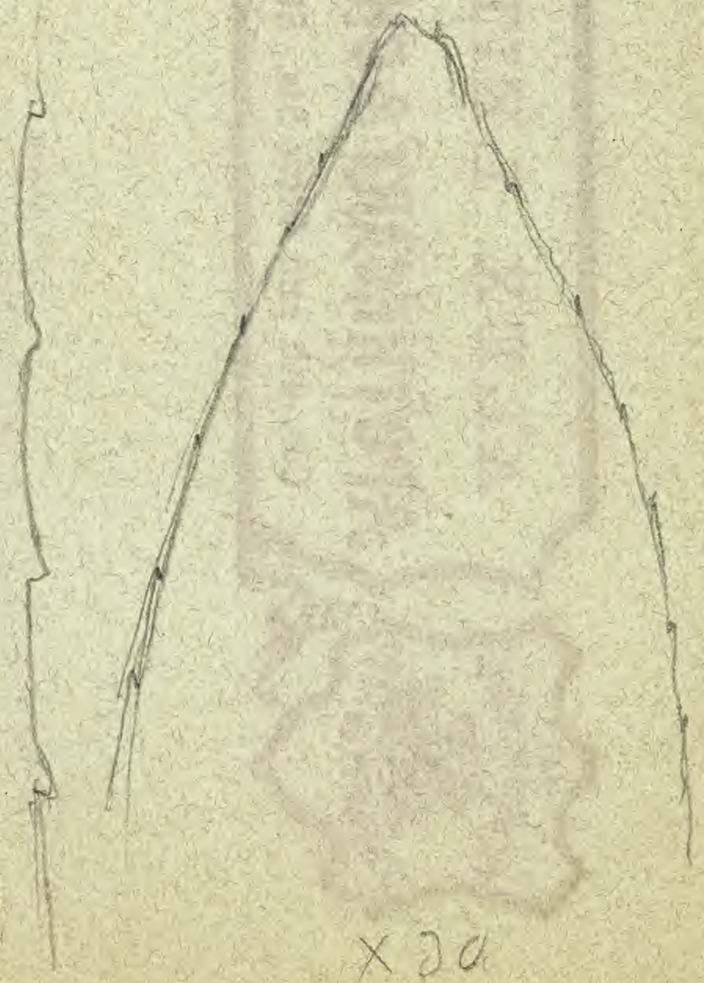


× 30

sheath very young 13-14 m m long
in old leaves 3-4 "
consisting of 7 or 8 bracts

leaves 3 ½ - 4 ½ m m long
1 ¾ - 2 m m wide

× 60



× 30

0 1 2 3 4 5 6 7 8 9 10
cm
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ALL THE NEW REMEDIES CONSTANTLY ON HAND

ALEX. LEITCH,

APOTHECARY & CHEMIST,

Cor. 4th and Olive Sts., St. Louis.

CHEMIST

GEORGE ENGELMANN PAPERS

0 cm 1 2 3 4 5 6 7 8 9 10
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P. contorta Murrayana Febr 21 1876

South Calif. Sierra Nathrop 1875

×30

hypoderm in single layer (except at angles) interrupted

more below than above

×60

×30

×150

×150

ducts without bast cells

0 1 2 3 4 5 6 7 8 9 10
cm
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Leitch & Curlies

DRUGGISTS

South-west Corner Fifth and Market Streets

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